

SEQUENCE LISTING

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<120> METHOD FOR IDENTIFYING INHIBITORS USING A HOMOLOGY
MODEL OF POLO-LIKE KINASE 1

<130> CCI-067US

<140> 10/579,006

<141> 2006-05-11

<150> PCT/GB04/004762

<151> 2004-11-12

<150> GB 0326396.9

<151> 2003-11-12

<160> 8

<170> PatentIn Ver. 3.3

<210> 1

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 1

Met	Ser	Tyr	Tyr	His	His	His	His	His	His	Gly	Met	Ala	Ser	Asp	Asp
1				5					10					15	

Asp Asp Lys

<210> 2

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic 6x
His tag

<400> 2

His	His	His	His	His	His
1				5	

<210> 3
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 3
 Arg Arg Arg Glu Glu Glu Thr Glu Glu Glu
 1 5 10

<210> 4
 <211> 603
 <212> PRT
 <213> Homo sapiens

<400> 4
 Met Ser Ala Ala Val Thr Ala Gly Lys Leu Ala Arg Ala Pro Ala Asp
 1 5 10 15
 Pro Gly Lys Ala Gly Val Pro Gly Val Ala Ala Pro Gly Ala Pro Ala
 20 25 30
 Ala Ala Pro Pro Ala Lys Glu Ile Pro Glu Val Leu Val Asp Pro Arg
 35 40 45
 Ser Arg Arg Arg Tyr Val Arg Gly Arg Phe Leu Gly Lys Gly Gly Phe
 50 55 60
 Ala Lys Cys Phe Glu Ile Ser Asp Ala Asp Thr Lys Glu Val Phe Ala
 65 70 75 80
 Gly Lys Ile Val Pro Lys Ser Leu Leu Leu Lys Pro His Gln Arg Glu
 85 90 95
 Lys Met Ser Met Glu Ile Ser Ile His Arg Ser Leu Ala His Gln His
 100 105 110
 Val Val Gly Phe His Gly Phe Phe Glu Asp Asn Asp Phe Val Phe Val
 115 120 125
 Val Leu Glu Leu Cys Arg Arg Arg Ser Leu Leu Glu Leu His Lys Arg
 130 135 140
 Arg Lys Ala Leu Thr Glu Pro Glu Ala Arg Tyr Tyr Leu Arg Gln Ile
 145 150 155 160
 Val Leu Gly Cys Gln Tyr Leu His Arg Asn Arg Val Ile His Arg Asp
 165 170 175
 Leu Lys Leu Gly Asn Leu Phe Leu Asn Glu Asp Leu Glu Val Lys Ile
 180 185 190
 Gly Asp Phe Gly Leu Ala Thr Lys Val Glu Tyr Asp Gly Glu Arg Lys
 195 200 205

Lys Thr Leu Cys Gly Thr Pro Asn Tyr Ile Ala Pro Glu Val Leu Ser
 210 215 220
 Lys Lys Gly His Ser Phe Glu Val Asp Val Trp Ser Ile Gly Cys Ile
 225 230 235 240
 Met Tyr Thr Leu Leu Val Gly Lys Pro Pro Phe Glu Thr Ser Cys Leu
 245 250 255
 Lys Glu Thr Tyr Leu Arg Ile Lys Lys Asn Glu Tyr Ser Ile Pro Lys
 260 265 270
 His Ile Asn Pro Val Ala Ala Ser Leu Ile Gln Lys Met Leu Gln Thr
 275 280 285
 Asp Pro Thr Ala Arg Pro Thr Ile Asn Glu Leu Leu Asn Asp Glu Phe
 290 295 300
 Phe Thr Ser Gly Tyr Ile Pro Ala Arg Leu Pro Ile Thr Cys Leu Thr
 305 310 315 320
 Ile Pro Pro Arg Phe Ser Ile Ala Pro Ser Ser Leu Asp Pro Ser Asn
 325 330 335
 Arg Lys Pro Leu Thr Val Leu Asn Lys Gly Leu Glu Asn Pro Leu Pro
 340 345 350
 Glu Arg Pro Arg Glu Lys Glu Glu Pro Val Val Arg Glu Thr Gly Glu
 355 360 365
 Val Val Asp Cys His Leu Ser Asp Met Leu Gln Gln Leu His Ser Val
 370 375 380
 Asn Ala Ser Lys Pro Ser Glu Arg Gly Leu Val Arg Gln Glu Glu Ala
 385 390 395 400
 Glu Asp Pro Ala Cys Ile Pro Ile Phe Trp Val Ser Lys Trp Val Asp
 405 410 415
 Tyr Ser Asp Lys Tyr Gly Leu Gly Tyr Gln Leu Cys Asp Asn Ser Val
 420 425 430
 Gly Val Leu Phe Asn Asp Ser Thr Arg Leu Ile Leu Tyr Asn Asp Gly
 435 440 445
 Asp Ser Leu Gln Tyr Ile Glu Arg Asp Gly Thr Glu Ser Tyr Leu Thr
 450 455 460
 Val Ser Ser His Pro Asn Ser Leu Met Lys Lys Ile Thr Leu Leu Lys
 465 470 475 480
 Tyr Phe Arg Asn Tyr Met Ser Glu His Leu Leu Lys Ala Gly Ala Asn
 485 490 495
 Ile Thr Pro Arg Glu Gly Asp Glu Leu Ala Arg Leu Pro Tyr Leu Arg
 500 505 510

Thr Trp Phe Arg Thr Arg Ser Ala Ile Ile Leu His Leu Ser Asn Gly
 515 520 525

Ser Val Gln Ile Asn Phe Phe Gln Asp His Thr Lys Leu Ile Leu Cys
 530 535 540

Pro Leu Met Ala Ala Val Thr Tyr Ile Asp Glu Lys Arg Asp Phe Arg
 545 550 555 560

Thr Tyr Arg Leu Ser Leu Leu Glu Glu Tyr Gly Cys Cys Lys Glu Leu
 565 570 575

Ala Ser Arg Leu Arg Tyr Ala Arg Thr Met Val Asp Lys Leu Leu Ser
 580 585 590

Ser Arg Ser Ala Ser Asn Arg Leu Lys Ala Ser
 595 600

<210> 5
 <211> 685
 <212> PRT
 <213> Homo sapiens

<400> 5
 Met Glu Leu Leu Arg Thr Ile Thr Tyr Gln Pro Ala Ala Ser Thr Lys
 1 5 10 15

Met Cys Glu Gln Ala Leu Gly Lys Gly Cys Gly Ala Asp Ser Lys Lys
 20 25 30

Lys Arg Pro Pro Gln Pro Pro Glu Glu Ser Gln Pro Pro Gln Ser Gln
 35 40 45

Ala Gln Val Pro Pro Ala Ala Pro His His His His His His Ser His
 50 55 60

Ser Gly Pro Glu Ile Ser Arg Ile Ile Val Asp Pro Thr Thr Gly Lys
 65 70 75 80

Arg Tyr Cys Arg Gly Lys Val Leu Gly Lys Gly Gly Phe Ala Lys Cys
 85 90 95

Tyr Glu Met Thr Asp Leu Thr Asn Asn Lys Val Tyr Ala Ala Lys Ile
 100 105 110

Ile Pro His Ser Arg Val Ala Lys Pro His Gln Arg Glu Lys Ile Asp
 115 120 125

Lys Glu Ile Glu Leu His Arg Ile Leu His His Lys His Val Val Gln
 130 135 140

Phe Tyr His Tyr Phe Glu Asp Lys Glu Asn Ile Tyr Ile Leu Leu Glu
 145 150 155 160

Tyr Cys Ser Arg Arg Ser Met Ala His Ile Leu Lys Ala Arg Lys Val
 165 170 175

Leu Thr Glu Pro Glu Val Arg Tyr Tyr Leu Arg Gln Ile Val Ser Gly
 180 185 190
 Leu Lys Tyr Leu His Glu Gln Glu Ile Leu His Arg Asp Leu Lys Leu
 195 200 205
 Gly Asn Phe Phe Ile Asn Glu Ala Met Glu Leu Lys Val Gly Asp Phe
 210 215 220
 Gly Leu Ala Ala Arg Leu Glu Pro Leu Glu His Arg Arg Arg Thr Ile
 225 230 235 240
 Cys Gly Thr Pro Asn Tyr Leu Ser Pro Glu Val Leu Asn Lys Gln Gly
 245 250 255
 His Gly Cys Glu Ser Asp Ile Trp Ala Leu Gly Cys Val Met Tyr Thr
 260 265 270
 Met Leu Leu Gly Arg Pro Pro Phe Glu Thr Thr Asn Leu Lys Glu Thr
 275 280 285
 Tyr Arg Cys Ile Arg Glu Ala Arg Tyr Thr Met Pro Ser Ser Leu Leu
 290 295 300
 Ala Pro Ala Lys His Leu Ile Ala Ser Met Leu Ser Lys Asn Pro Glu
 305 310 315 320
 Asp Arg Pro Ser Leu Asp Asp Ile Ile Arg His Asp Phe Phe Leu Gln
 325 330 335
 Gly Phe Thr Pro Asp Arg Leu Ser Ser Ser Cys Cys His Thr Val Pro
 340 345 350
 Asp Phe His Leu Ser Ser Pro Ala Lys Asn Phe Phe Lys Lys Ala Ala
 355 360 365
 Ala Ala Leu Phe Gly Gly Lys Lys Asp Lys Ala Arg Tyr Ile Asp Thr
 370 375 380
 His Asn Arg Val Ser Lys Glu Asp Glu Asp Ile Tyr Lys Leu Arg His
 385 390 395 400
 Asp Leu Lys Lys Thr Ser Ile Thr Gln Gln Pro Ser Lys His Arg Thr
 405 410 415
 Asp Glu Glu Leu Gln Pro Pro Thr Thr Thr Val Ala Arg Ser Gly Thr
 420 425 430
 Pro Ala Val Glu Asn Lys Gln Gln Ile Gly Asp Ala Ile Arg Met Ile
 435 440 445
 Val Arg Gly Thr Leu Gly Ser Cys Ser Ser Ser Ser Glu Cys Leu Glu
 450 455 460
 Asp Ser Thr Met Gly Ser Val Ala Asp Thr Val Ala Arg Val Leu Arg
 465 470 475 480

Gly	Cys	Leu	Glu	Asn	Met	Pro	Glu	Ala	Asp	Cys	Ile	Pro	Lys	Glu	Gln
				485					490					495	
Leu	Ser	Thr	Ser	Phe	Gln	Trp	Val	Thr	Lys	Trp	Val	Asp	Tyr	Ser	Asn
			500					505					510		
Lys	Tyr	Gly	Phe	Gly	Tyr	Gln	Leu	Ser	Asp	His	Thr	Val	Gly	Val	Leu
		515					520					525			
Phe	Asn	Asn	Gly	Ala	His	Met	Ser	Leu	Leu	Pro	Asp	Lys	Lys	Thr	Val
	530					535					540				
His	Tyr	Tyr	Ala	Glu	Leu	Gly	Gln	Cys	Ser	Val	Phe	Pro	Ala	Thr	Asp
545					550					555					560
Ala	Pro	Glu	Gln	Phe	Ile	Ser	Gln	Val	Thr	Val	Leu	Lys	Tyr	Phe	Ser
				565					570					575	
His	Tyr	Met	Glu	Glu	Asn	Leu	Met	Asp	Gly	Gly	Asp	Leu	Pro	Ser	Val
			580					585					590		
Thr	Asp	Ile	Arg	Arg	Pro	Arg	Leu	Tyr	Leu	Leu	Gln	Trp	Leu	Lys	Ser
		595					600					605			
Asp	Lys	Ala	Leu	Met	Met	Leu	Phe	Asn	Asp	Gly	Thr	Phe	Gln	Val	Asn
	610					615					620				
Phe	Tyr	His	Asp	His	Thr	Lys	Ile	Ile	Ile	Cys	Ser	Gln	Asn	Glu	Glu
625					630					635					640
Tyr	Leu	Leu	Thr	Tyr	Ile	Asn	Glu	Asp	Arg	Ile	Ser	Thr	Thr	Phe	Arg
				645					650					655	
Leu	Thr	Thr	Leu	Leu	Met	Ser	Gly	Cys	Ser	Ser	Glu	Leu	Lys	Asn	Arg
			660					665					670		
Met	Glu	Tyr	Ala	Leu	Asn	Met	Leu	Leu	Gln	Arg	Cys	Asn			
		675					680					685			

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<210> 6
<211> 646
<212> PRT
<213> Homo sapiens
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<400> 6
Met Glu Pro Ala Ala Gly Phe Leu Ser Pro Arg Pro Phe Gln Arg Thr
  1                    5                10              15

Ala Ala Ala Thr Ala Pro Pro Ala Gly Pro Gly Pro Pro Pro Ser Ala
      20                25              30

Leu Arg Gly Pro Glu Leu Glu Met Leu Ala Gly Leu Pro Thr Ser Asp
      35                40              45

Pro Gly Arg Leu Ile Thr Asp Pro Arg Ser Gly Arg Thr Tyr Leu Lys
  50                55              60

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Gly Arg Leu Leu Gly Lys Gly Gly Phe Ala Arg Cys Tyr Glu Ala Thr
 65 70 75 80
 Asp Thr Glu Thr Gly Ser Ala Tyr Ala Val Lys Val Ile Pro Gln Ser
 85 90 95
 Arg Val Val Lys Pro His Gln Arg Glu Lys Ile Leu Asn Glu Ile Glu
 100 105 110
 Leu His Arg Asp Leu Gln His Arg His Ile Val Arg Phe Ser His His
 115 120 125
 Phe Glu Asp Ala Asp Asn Ile Tyr Ile Phe Leu Glu Leu Cys Ser Arg
 130 135 140
 Lys Ser Leu Ala His Ile Trp Lys Ala Arg His Thr Leu Leu Glu Pro
 145 150 155 160
 Glu Val Arg Tyr Tyr Leu Arg Gln Ile Leu Ser Gly Leu Lys Tyr Leu
 165 170 175
 His Gln Arg Gly Ile Leu His Arg Asp Leu Lys Leu Gly Asn Phe Phe
 180 185 190
 Ile Thr Glu Asn Met Glu Leu Lys Val Gly Asp Phe Gly Leu Ala Ala
 195 200 205
 Arg Leu Glu Pro Pro Glu Gln Arg Lys Lys Thr Ile Cys Gly Thr Pro
 210 215 220
 Asn Tyr Val Ala Pro Glu Val Leu Leu Arg Gln Gly His Gly Pro Glu
 225 230 235 240
 Ala Asp Val Trp Ser Leu Gly Cys Val Met Tyr Thr Leu Leu Cys Gly
 245 250 255
 Ser Pro Pro Phe Glu Thr Ala Asp Leu Lys Glu Thr Tyr Arg Cys Ile
 260 265 270
 Lys Gln Val His Tyr Thr Leu Pro Ala Ser Leu Ser Leu Pro Ala Arg
 275 280 285
 Gln Leu Leu Ala Ala Ile Leu Arg Ala Ser Pro Arg Asp Arg Pro Ser
 290 295 300
 Ile Asp Gln Ile Leu Arg His Asp Phe Phe Thr Lys Gly Tyr Thr Pro
 305 310 315 320
 Asp Arg Leu Pro Ile Ser Ser Cys Val Thr Val Pro Asp Leu Thr Pro
 325 330 335
 Pro Asn Pro Ala Arg Ser Leu Phe Ala Lys Val Thr Lys Ser Leu Phe
 340 345 350
 Val Arg Lys Lys Lys Ser Lys Asn His Ala Gln Glu Arg Asp Glu Val
 355 360 365

Ser Gly Leu Val Ser Gly Leu Met Arg Thr Ser Val Gly His Gln Asp
 370 375 380
 Ala Arg Pro Glu Ala Pro Ala Ala Ser Gly Pro Ala Pro Val Ser Leu
 385 390 395 400
 Val Glu Thr Ala Pro Glu Asp Ser Ser Pro Arg Gly Thr Leu Ala Ser
 405 410 415
 Ser Gly His Gly Phe Glu Glu Gly Leu Thr Val Ala Thr Val Val Glu
 420 425 430
 Ser Ala Leu Cys Ala Leu Arg Asn Cys Ile Ala Phe Met Pro Pro Ala
 435 440 445
 Glu Gln Asn Pro Ala Pro Leu Ala Gln Pro Glu Pro Leu Val Trp Phe
 450 455 460
 Ser Glu Trp Val Gly Phe Ser Asn Lys Phe Gly Phe Gly Tyr Gln Leu
 465 470 475 480
 Ser Ser Arg Arg Val Ala Val Leu Phe Asn Asp Gly Thr His Met Ala
 485 490 495
 Leu Ser Ala Asn Arg Lys Thr Val His Tyr Asn Pro Thr Ser Thr Lys
 500 505 510
 His Phe Ser Phe Ser Val Gly Ala Val Arg Arg Ala Leu Gln Pro Gln
 515 520 525
 Leu Gly Ile Leu Arg Tyr Phe Ala Ser Tyr Met Glu Gln His Leu Met
 530 535 540
 Lys Gly Gly Asp Leu Pro Ser Val Glu Glu Val Glu Val Pro Ala Pro
 545 550 555 560
 Pro Leu Leu Leu Gln Trp Val Lys Thr Asp Gln Ala Leu Leu Met Leu
 565 570 575
 Phe Ser Asp Gly Thr Val Gln Val Asn Phe Tyr Gly Asp His Thr Lys
 580 585 590
 Leu Ile Leu Ser Gly Trp Glu Pro Leu Leu Val Thr Phe Val Ala Arg
 595 600 605
 Asn Arg Ser Ala Cys Thr Tyr Leu Ala Ser His Leu Arg Gln Leu Gly
 610 615 620
 Cys Ser Pro Asp Leu Arg Gln Arg Leu Arg Tyr Ala Leu Arg Leu Leu
 625 630 635 640
 Arg Asp Arg Ser Pro Ala
 645

<210> 7
 <211> 326
 <212> PRT
 <213> Homo sapiens

<400> 7
 Met Ser Ala Ala Val Thr Ala Gly Lys Leu Ala Arg Ala Pro Ala Asp
 1 5 10 15
 Pro Gly Lys Ala Gly Val Pro Gly Val Ala Ala Pro Gly Ala Pro Ala
 20 25 30
 Ala Ala Pro Pro Ala Lys Glu Ile Pro Glu Val Leu Val Asp Pro Arg
 35 40 45
 Ser Arg Arg Arg Tyr Val Arg Gly Arg Phe Leu Gly Lys Gly Gly Phe
 50 55 60
 Ala Lys Cys Phe Glu Ile Ser Asp Ala Asp Thr Lys Glu Val Phe Ala
 65 70 75 80
 Gly Lys Ile Val Pro Lys Ser Leu Leu Leu Lys Pro His Gln Arg Glu
 85 90
 Lys Met Ser Met Glu Ile Ser Ile His Arg Ser Leu Ala His Gln His
 100 105 110
 Val Val Gly Phe His Gly Phe Phe Glu Asp Asn Asp Phe Val Phe Val
 115 120 125
 Val Leu Glu Leu Cys Arg Arg Arg Ser Leu Leu Glu Leu His Lys Arg
 130 135 140
 Arg Lys Ala Leu Thr Glu Pro Glu Ala Arg Tyr Tyr Leu Arg Gln Ile
 145 150 155 160
 Val Leu Gly Cys Gln Tyr Leu His Arg Asn Arg Val Ile His Arg Asp
 165 170 175
 Leu Lys Leu Gly Asn Leu Phe Leu Asn Glu Asp Leu Glu Val Lys Ile
 180 185 190
 Gly Asp Phe Gly Leu Ala Thr Lys Val Glu Tyr Asp Gly Glu Arg Lys
 195 200 205
 Lys Thr Leu Cys Gly Thr Pro Asn Tyr Ile Ala Pro Glu Val Leu Ser
 210 215 220
 Lys Lys Gly His Ser Phe Glu Val Asp Val Trp Ser Ile Gly Cys Ile
 225 230 235 240
 Met Tyr Thr Leu Leu Val Gly Lys Pro Pro Phe Glu Thr Ser Cys Leu
 245 250 255
 Lys Glu Thr Tyr Leu Arg Ile Lys Lys Asn Glu Tyr Ser Ile Pro Lys
 260 265 270

His Ile Asn Pro Val Ala Ala Ser Leu Ile Gln Lys Met Leu Gln Thr
 275 280 285
 Asp Pro Thr Ala Arg Pro Thr Ile Asn Glu Leu Leu Asn Asp Glu Phe
 290 295 300
 Phe Thr Ser Gly Tyr Ile Pro Ala Arg Leu Pro Ile Thr Cys Leu Thr
 305 310 315 320
 Ile Pro Pro Arg Phe Ser
 325

<210> 8
 <211> 320
 <212> PRT
 <213> Homo sapiens

<400> 8
 Met Gly Asn Ala Ala Ala Lys Lys Gly Ser Glu Gln Glu Ser Val
 1 5 10 15
 Lys Glu Phe Leu Ala Lys Ala Lys Glu Asp Phe Leu Lys Lys Trp Glu
 20 25 30
 Ser Pro Ala Gln Asn Thr Ala His Leu Asp Gln Phe Glu Arg Ile Lys
 35 40 45
 Thr Leu Gly Thr Gly Ser Phe Gly Arg Val Met Leu Val Lys His Lys
 50 55 60
 Glu Thr Gly Asn His Tyr Ala Met Lys Ile Leu Asp Lys Gln Lys Val
 65 70 75 80
 Val Lys Leu Lys Gln Ile Glu His Thr Leu Asn Glu Lys Arg Ile Leu
 85 90 95
 Gln Ala Val Asn Phe Pro Phe Leu Val Lys Leu Glu Phe Ser Phe Lys
 100 105 110
 Asp Asn Ser Asn Leu Tyr Met Val Met Glu Tyr Val Pro Gly Gly Glu
 115 120 125
 Met Phe Ser His Leu Arg Arg Ile Gly Arg Phe Ser Glu Pro His Ala
 130 135 140
 Arg Phe Tyr Ala Ala Gln Ile Val Leu Thr Phe Glu Tyr Leu His Ser
 145 150 155 160
 Leu Asp Leu Ile Tyr Arg Asp Leu Lys Pro Glu Asn Leu Leu Ile Asp
 165 170 175
 Gln Gln Gly Tyr Ile Gln Val Thr Asp Phe Gly Phe Ala Lys Arg Val
 180 185 190
 Lys Gly Arg Thr Trp Thr Leu Cys Gly Thr Pro Glu Tyr Leu Ala Pro
 195 200 205

